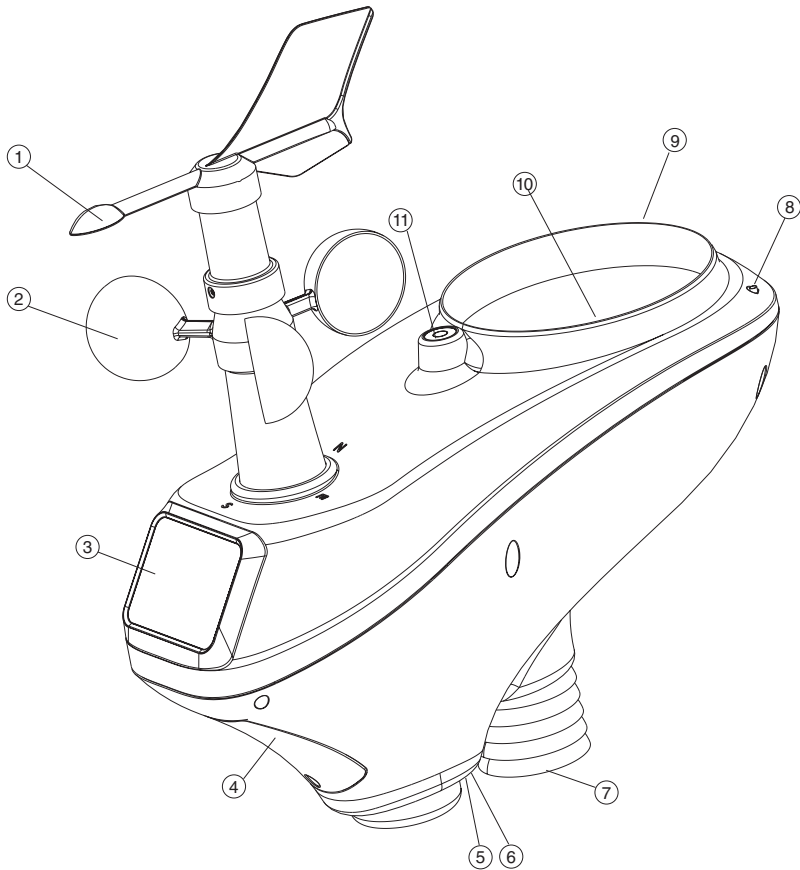


PROFESSIONAL WIRELESS INTERNET WEATHER STATION

Operation Manual

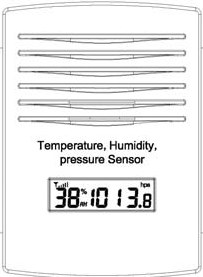
OVERVIEW

Outdoor sensor:

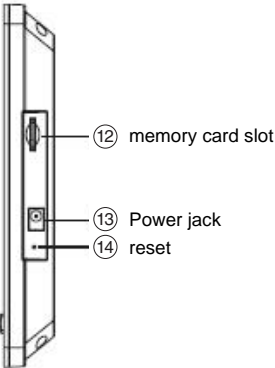
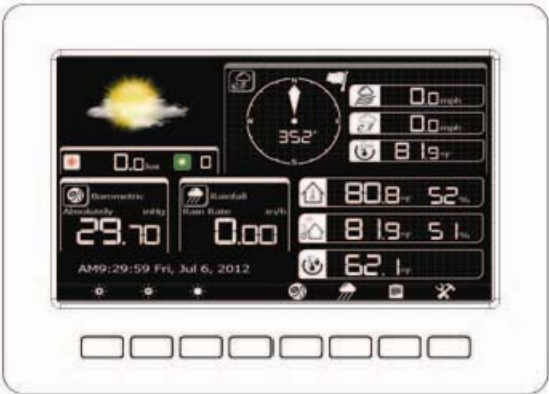


1. Wind Vane
2. Wind Speed Sensor
3. Solar panel
4. Battery compartment
5. LED Indicator: light on for 4s if the unit power up. Then the LED will flash once every 16 seconds (the sensor transmission update period).
6. Reset button
7. Thermo-hygro sensor
8. UV sensor
9. Light sensor
10. Rain collector
11. Bubble level

Indoor sensor



Display unit



Contents

The weather station consists of the following parts.

QTY	Item
1	Display Console
1	Outdoor sensor(Thermo-hygrometer / Rain Gauge / Wind Speed Sensor /Transmitter)
1	Wind Vane
1	Indoor sensor
1	5V DC adaptor
1	Pole
2	Pole mounting U-bolt
4	Pole mounting clamps
4	Pole mounting nuts
1	User manual

Introduction

Thank you for your purchase this professional weather station. The outdoor sensor is solar powered and sends data to the console via a low-power radio. This manual will guide you step-by-step through setting up your device. Use this manual to become familiar with your professional weather station, and save it for future reference.

Feature

- Display illumination
- Weather data calibration
- Time
- Date
- Wireless outdoor sensor
- Indoor temperature
- Indoor humidity
- Air pressure
- Outdoor temperature
- Outdoor humidity
- Display °C or °F
- Wind speed
- Wind direction
- UV index
- Solar power
- Weather forecast
- Calendar
- Wind chill
- Dew point
- Max/min memory
- Alarm on exceeding values
- 12/24 hour display
- Time alarm
- Wall mount
- Table stand
- Range 100 meter

Installation

Before placing and installing all components of the weather station at there final destination, please set up the weather station with all parts being nearby for testing the correct function.

Outdoor sensor

1. Attach the wind vane

Push the wind vane into the shaft, as shown in figure 1.

Tighten the set screw with the Allen Wrench (included) as shown in figure 2. Make sure the wind vane spin freely.

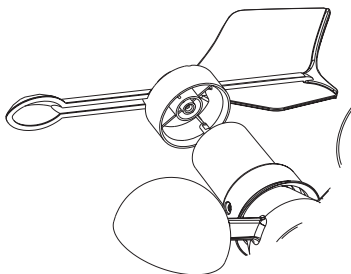


Figure 1

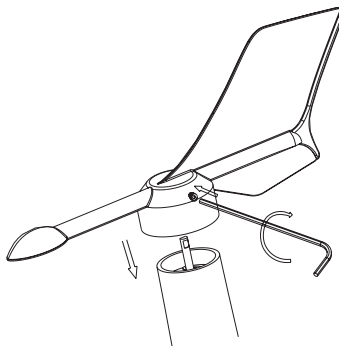


Figure 2

2. Insert the pole into the base, as shown in figure 3. Spin the lid onto the base as shown in figure 4.

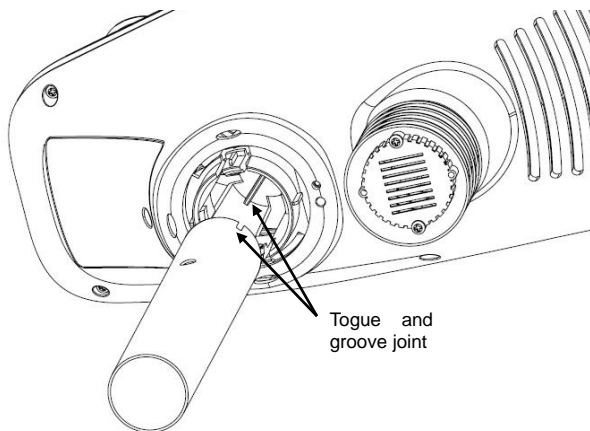


Figure 3

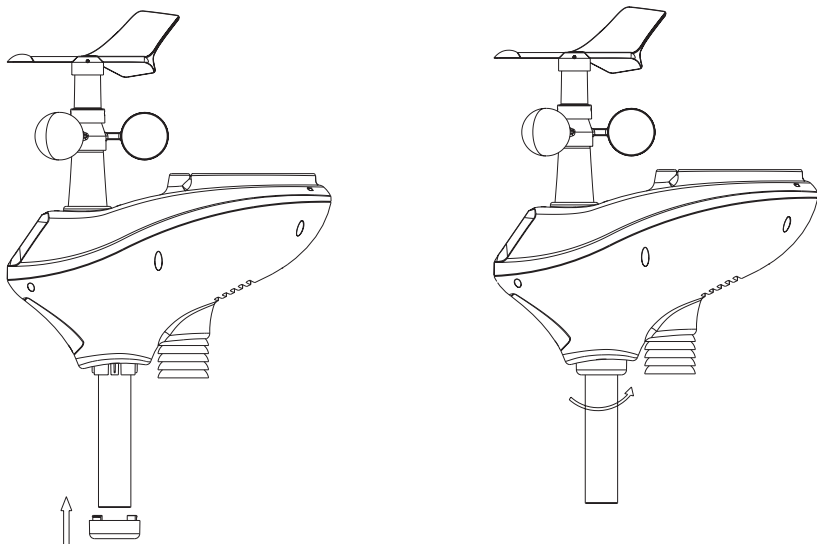


Figure 4

3. Locate the battery door on the thermo-hygrometer / rain gauge transmitter, as shown in Figure 5. Turn the set screw counter clockwise to loosen the screw to open the battery compartment. Insert 3XAA rechargeable batteries in the battery compartment. The LED indicator on the back of the transmitter will turn on for four seconds and normally flash once every 16 seconds (the sensor transmission update period).

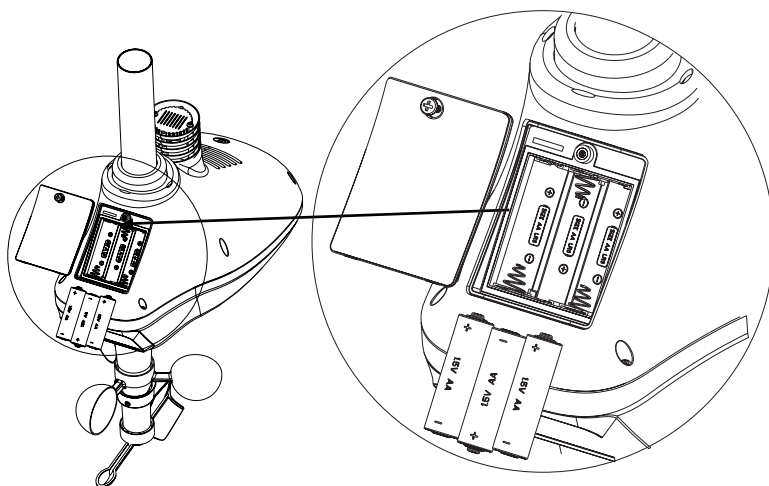


Figure 5

Note: If no LED light up or is lighted permanently, make sure the battery is inserted the correct way or a proper reset is happened. Do not install the batteries backwards. You can permanently damage the thermo-hygrometer.

4. Fasten the mounting pole to your mounting pole or bracket (purchased separately) with the two U-bolts, mounting pole brackets and nuts, as shown in Figure 6.

Tighten the mounting pole to your mounting pole with the U-Bolt assembly, as shown in Figure 7..

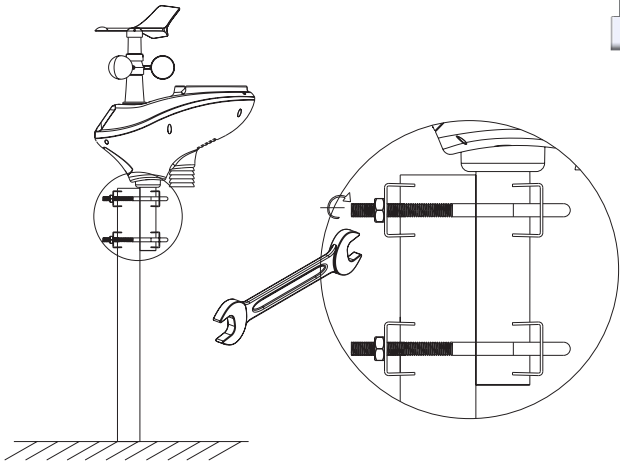


Figure 7

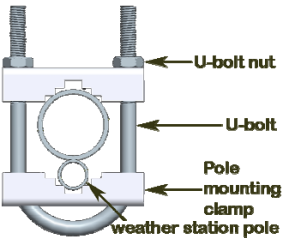


Figure 6

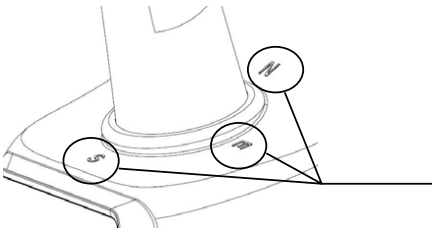


Figure 8

there are four alphabet letter of "N","E","S"and "W" representing for the direction of North, East, South and West, as Figure 8. Wind direction sensor has to be adjusted so that the directions on the sensor are matching with your real location. Permanent wind direction error will be introduced when the wind direction sensor is not positioned correctly during installation.

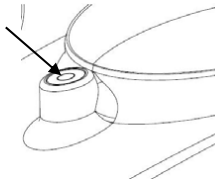


Figure 9

Level the sensors

Use the bubble level on the rain sensor as a guide to verify that sensors are level.

indoor sensor

Remove the battery door on the back of the sensor with a Philips screwdriver (there is only one screw, at the bottom of the unit). Insert two AAA batteries as shown in Figure 10 (we recommend lithium batteries for cold weather climates, but alkaline batteries are sufficient for most climates).

Replace the battery door and set screw. Note that the temperature, humidity and pressure will be displayed on the LCD display. Looking at the back of the unit from left to right, the polarity is (-) (+) for the top battery and (+) (-) for the bottom battery.

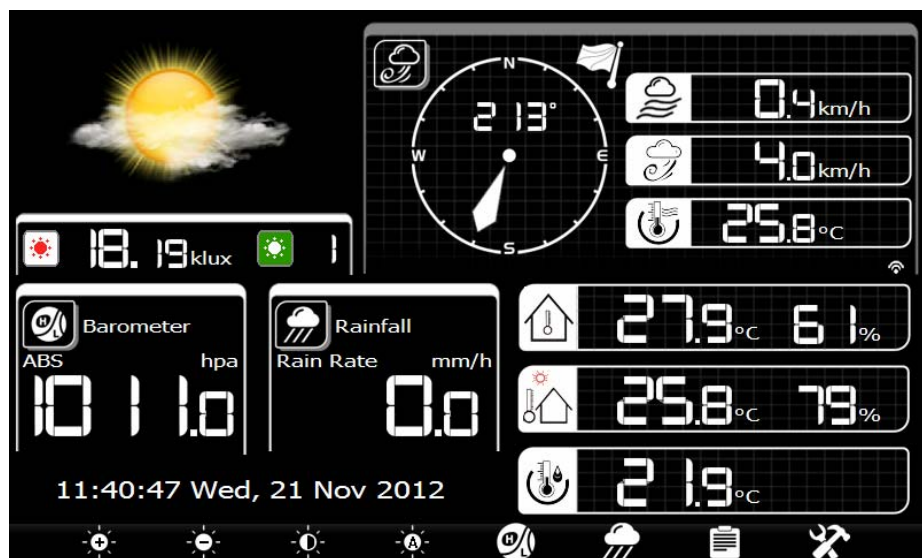


Figure 10

Initial Display Console Set Up

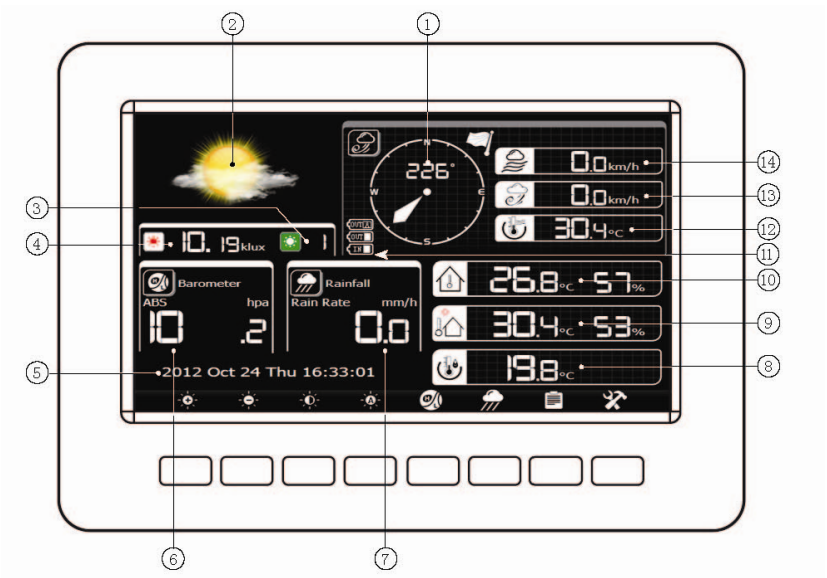
Connect the power adapter to power up the display console.

The display console starts to register the transmitter and receive the weather data from transmitter. The interface as below:



Program Mode

1. Normal display Mode



1. Wind direction

2. Weather Forecast

3. UV index

4. Light

5. Time and date

6. Barometric Pressure

7. Rainfall
8. Dew point

9. Outdoor Temperature & Humidity

10. Indoor Temperature & Humidity




11. Low battery indicator

12. Wind chill

13. Gust

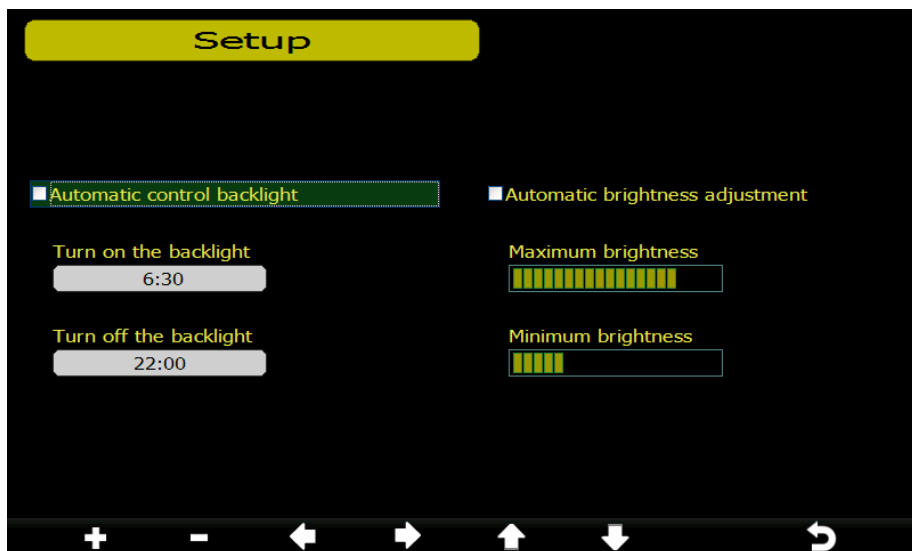
14. Wind speed








Icon	Description
	Brightness control key Press this key to enhance the brightness
	Brightness control key Press this key to decrease the brightness
	Backlight on/off key Press this key to on/off the backlight
	Auto backlight control key Press this key to enter the auto backlight setup mode
	Pressure display key Press this key to choose the display between Absolute pressure and Relative pressure.


	Rain key Press this key to Shift the display between Rain Rate, Rain Day, Rain Week, Rain Month, and Rain Year.
	History key Press this key to enter History Mode
	Setting key Press this key to enter Setting Mode

2. Auto backlight setup mode



While in normal display, press the  key to enter Auto backlight setup Mode.

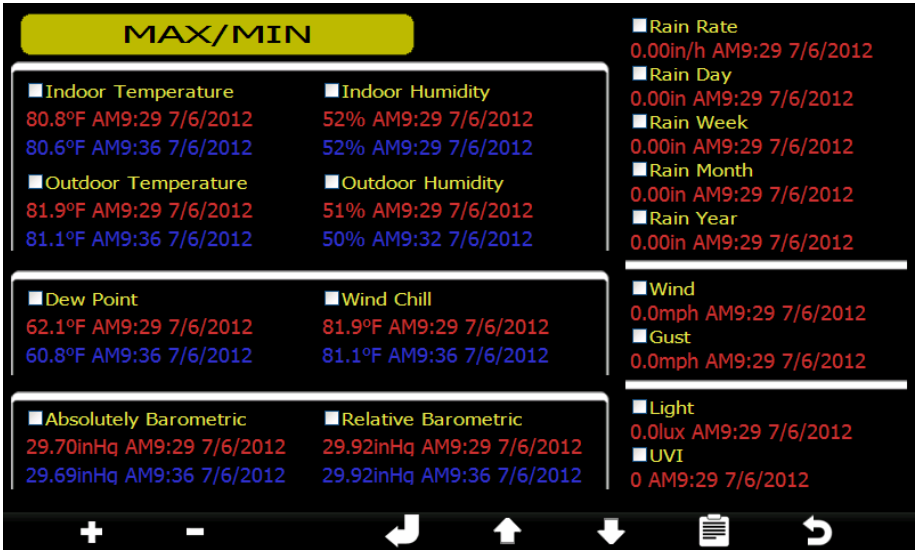











Icon	Description
	Select key Press this key to select the unit or scrolls the value
	Select key Press this key to select the unit or scrolls the value.
	Left key Press this key to select the set value.
	Right key Press this key to select the set value.
	Up arrow key Press this key to change the activated option field
	Down arrow key Press this key to change the activated option field
	Return key Press this key to return to previous mode

If the auto backlight turn-on time has been set, you can press  key to turn off the backlight within the turn on time. Backlight will turn on again automatically at next turn on time. You can press any key to turn on the backlight for 60s within the turn off time

3. History Mode









While in normal display, press the  key to enter History Mode. You can select the below sub-mode by pressing the  key.



Icon	Description
	Selection key Press this key to select the weather MAX/MIN record which need to clear
	Selection key Press this key to select the weather MAX/MIN record which need to clear
	Enter key While select the weather MAX/MIN record, press this key to popup Message Box"Are you sure to clear the Max/Min?" press the  key or  key to confirm the selection.
	Up arrow key Press this key to change the activated option field
	Down arrow key Press this key to change the activated option field
	History key Press this key to select the History sub-Mode
	Return key Press this key to return to normal display mode

3.2 History Record Mode

[illegible]

Icon	Description
	File Select key Press this key to enter the file selection mode
	Page Select key Press this key to enter the page selection mode.
	Scroll left key Press this key to view the left of the scrollable area.
	Scroll right key Press this key to view the right of the scrollable area.
	Page up key Press this key to scroll up the page you are viewing
	Page down key Press this key to scroll down the page you are viewing
	History key Press this key to select the sub-Mode
	Return key Press this key to return to previous mode



While in History Record Mode, press  key to enter the file selection mode:

3.3 History graph mode

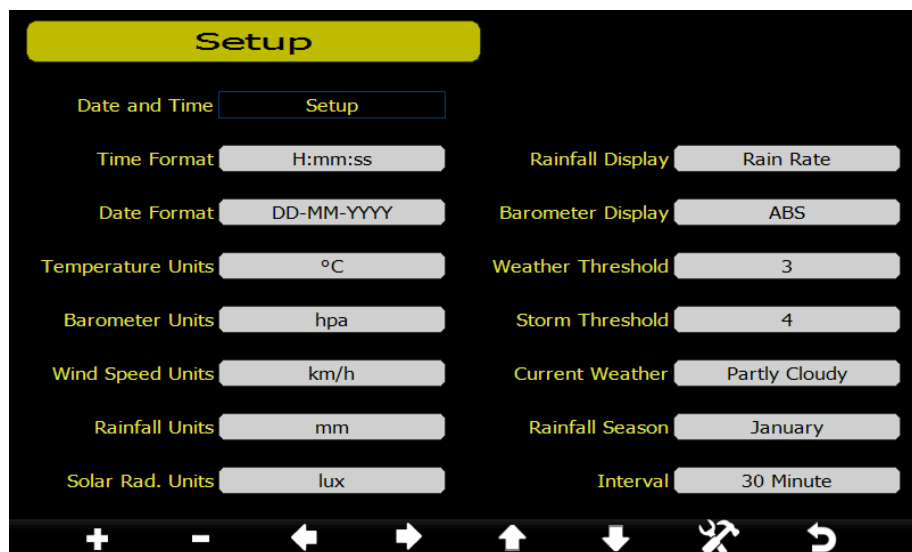










Icon	Description
	Zoom In key
	Zoom Out key
	Scroll left key Press this key to view the left of the scrollable area.
	Scroll right key Press this key to view the right of the scrollable area.
	Select file key Press this key to enter the file selection mode
	Page down key Press this key to scroll down the page you are viewing
	History key Press this key to select the sub-Mode
	Return key Press this key to return to previous mode

4. Setting Mode




While in normal display, press the  key to enter Setting Mode. You can select the below sub-mode by pressing the  key

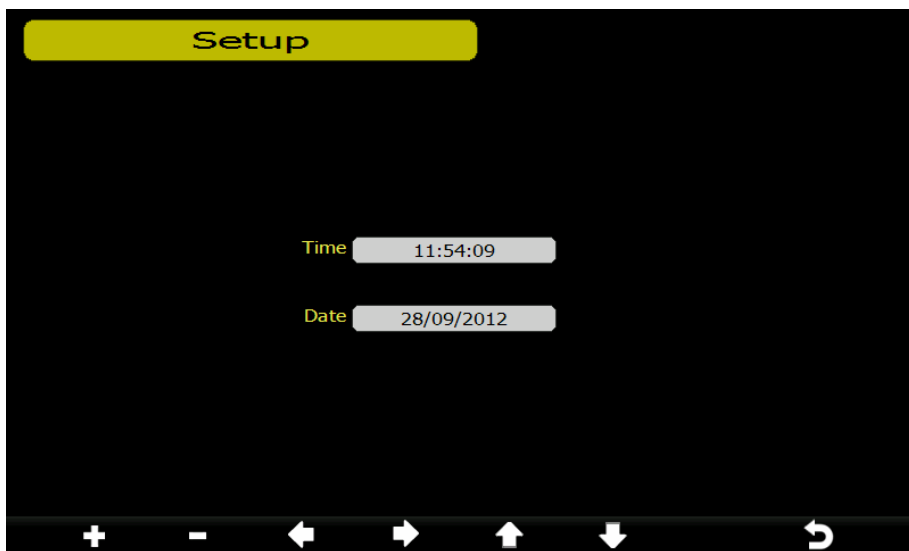
4.1 Menu Setting Mode












Icon	Description
	Select key Press this key to select the unit or scrolls the value
	Select key Press this key to select the unit or scrolls the value.
	Left key Press this key to select the set value.
	Right key Press this key to select the set value.
	Up arrow key Press this key to change the activated option field
	Down arrow key Press this key to change the activated option field
	Set key Press this key to select the Setting sub-Mode
	Return key Press this key to return to previous mode

4.1.1. Date and Time setting










While in Menu Setting Mode, press  key to select Date and Time Setup field, press  or  key to enter Date and Time Setup mode:



1) Time setting (hour/minute/second)

Press  key to select time setting field, the hour digit turn red, press the  or  key to change the hour setting. Press  to set the minute, the minute digit turn red, press the  or  key to change the minute setting. Press  to set the second, the second digit turn red, press the  or  key to change the second setting

2) Date setting

Press  key to select Date setting field, the day digit turn red, press the  or  key to change the day setting. Press  to set the month, the month digit turn red, press the  or  key to change the month setting. Press  to set the year, the year digit turn red, press the  or  key to change the year setting

4.1.2 Time Format setting (H:mm:ss / h:mm:ss AM / AM h:mm:ss, default H:mm:ss)

4.1.3 Date Format setting (MM-DD-YY, DD-MM-YY or YY-MM-DD format, default DD-MM-YYYY)

4.1.4 Temperature unit setting (°C / °F, default °C)

4.1.5 Barometric unit (hPa / inHg / mmHg, default hPa)

4.1.6 Wind speed unit (km/h, m/s, bft, mph, knots default: m/s)

4.1.7 Rainfall unit (mm, inch, default: mm)

4.1.8 Solar Rad. unit (lux,fc,w/m²)

4.1.9 Rainfall display (Rain Rate, Rain Day, Rain Week, Rain Month, Rain Year)

Rain Rate: it forecast the rain per hour base on the recently 10 minute's rainfall. For example: the rainfall of recent 10 minutes is 12mm, the rain/hour is 12mm*6=72mm/h.

Note: The rain per day is reset to zero at 0:00hr every day. The rain per week is reset to zero at 0:00hr every Sunday, per month is reset to zero at 0:00hr every first day of the month. The reset of the rain per year refer to rainfall season section

4.1.10 Barometric display (Absolutely, Relative)

4.1.11 Weather threshold (2-4, default 3)

It's pressure sensitivity setting for weather forecasting. When the pressure rises over weather threshold in past 12 hours the weather upgrades (like from partly cloudy to sunny). When the pressure drops over weather threshold in past 12 hours the weather degrades (like from cloudy to raining). For areas that experience frequent changes in air pressure requires a higher level setting compared to an area where the air pressure is stagnant. For example if 4 is selected, then there must be a fall or rise in air pressure of at least 4hPa needed to change the weather forecast icons.

4.1.12 Storm threshold (3-9, default 4)

Similar to the general pressure sensitivity setting it is possible to adjust the storm threshold sensitivity from 3-9 (default 4). When there is a fall over storm threshold within 3 hours, the storm icon will appear.

4.1.13 Current weather

The five weather icons are Sunny, Partly Cloudy, Cloudy, Rainy and Storm.



4.1.14 Rainfall season (default: January)

Rainfall season influence the annual rainfall maximum, minimum and total value. When one month was selected, the annual rainfall and annual max/min rainfall were zero clearing at 0:00 of the first day of the selected month,









4.1.15 Storing Interval (1-240minutes)

4.2 Alarm Setting Mode

Alarm

Indoor Temperature	68.0 °F	↔	32.0 °F	↔
Indoor Humidity	65 %	↔	35 %	↔
Outdoor Temperature	86.0 °F	↔	14.0 °F	↔
Outdoor Humidity	75 %	↔	45 %	↔
Wind Chill	68.0 °F	↔	32.0 °F	↔
Dew Point	50.0 °F	↔	14.0 °F	↔
ABS Barometer	30.71 inHg	↔	28.35 inHg	↔
REL Barometer	30.71 inHg	↔	28.35 inHg	↔
Alarm Time				12:00 AM ↔
Wind				1.1 mph ↔
Gust				2.2 mph ↔
Rain Rate				0.00 in/h ↔
Daily Rain				0.00 in ↔

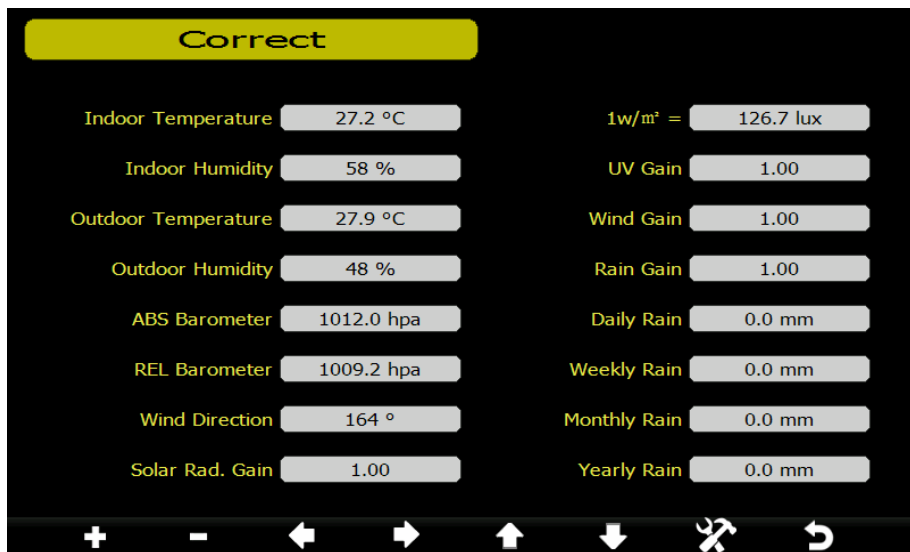
+
-
←
→
↑
↓
⚙️
↺




Icon	Description
	Select key Press this key to select the unit or scrolls the value
	Select key Press this key to select the unit or scrolls the value.
	Left key Press this key to select the set value.
	Right key Press this key to select the set value.
	Up arrow key Press this key to change the activated option field
	Down arrow key Press this key to change the activated option field
	Set key Press this key to select the Setting sub-Mode
	Return key Press this key to return to previous mode






The first row is high alarm value and the second row is low alarm value.

When a set weather alarm condition has been triggered, that particular alarm will sound for 120 second and the corresponding icon will flash until the weather condition doesn't meet the user set level. Press any key to mute the alarm.

4.3 Calibration Mode



Icon	Description
	Select key Press this key to select the unit or scrolls the value
	Select key Press this key to select the unit or scrolls the value.
	Left key Press this key to select the set value.

	Right key Press this key to select the set value.
	Up arrow key Press this key to change the activated option field
	Down arrow key Press this key to change the activated option field
	Set key Press this key to select the Setting sub-Mode
	Return key Press this key to return to previous mode

Solar Rad. Gain calibration (default is 1.0, adjustment range 0.75 to 1.25)

UV calibration (default is 1.0, adjustment range 0.75 to 1.25)

Wind Calibration (default is 1.0, adjustment range 0.75 to 1.25)









Rain calibration (default is 1.0, adjustment range 0.75 to 1.25)

The conversion factor for Lux converter to w/m^2 . (The range is 100-1000, default 126.7.)

4.4 Factory reset



4.4.2 Re-register indoor transmitter

Press  or  key to select re-register indoor transmitter. Press  or  key to popup the Message Box "Are you sure you want to register the new indoor transmitter?" Press  or  to select Yes or No. Press the  key or  key to confirm the selection.

4.4.3 Re-register outdoor transmitter

Please reference section 4.4.1. Procedures and settings are similar to re-register indoor transmitter

4.4.4 Clear History

Please reference section 4.4.1.





4.4.5 Clear Max/Min

Please reference section 4.4.1.









4.4.6 Reset Factory

Please reference section 4.4.1

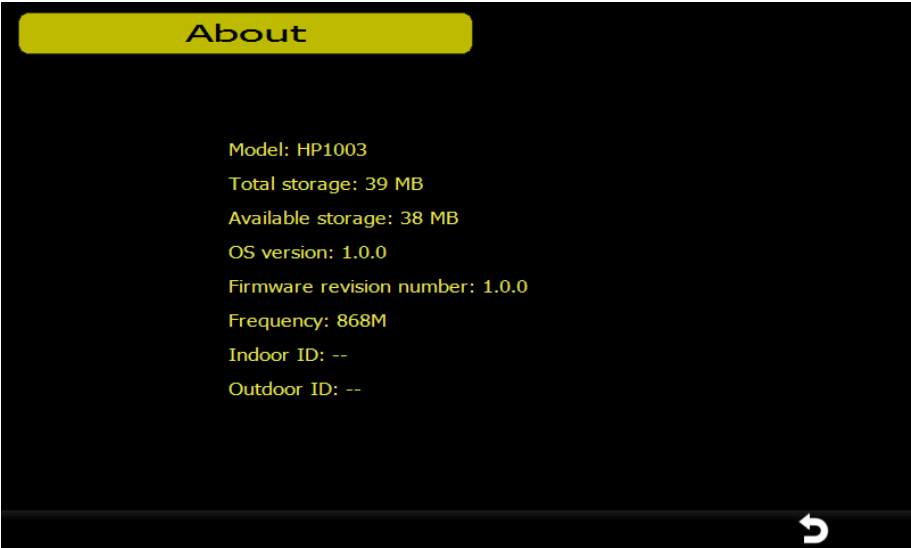
4.4.7 Backup data

Press  or  key to select Backup data field, press the  or  key to enter backup mode:



Press  or  key to select the history year file. Press  key or  key to confirm the selection. Press  or  to change the activated option field. Press  key to start backup, press  key again to stop the backup. Please insert TF card before start backup. The data save as excel format as default setting.





Specifications

Outdoor data

Transmission distance in open field	:	100m(330 feet)
Frequency	:	433 MHz / 868 MHz / 915 MHz (option)
Temperature range	:	-40°C-60°C (-40°F to +140°F)
Accuracy	:	+ / - 1 °C
Resolution	:	0.1°C
Measuring range rel. humidity	:	1%~99%
Accuracy	:	+/- 5%
Rain volume display	:	0 – 9999mm (show --- if outside range)
Accuracy	:	+ / - 10%
Resolution	:	0.3mm (if rain volume < 1000mm) 1mm (if rain volume > 1000mm)
Wind speed	:	0-50m/s (0~100mph) (show --- if outside range)
Accuracy:	:	+/- 1m/s (wind speed< 5m/s) +/-10% (wind speed > 5m/s)
Light	:	0-400k Lux
Accuracy	:	+/-15%
Measuring interval outdoor sensor	:	16 sec
Measuring interval indoor sensor	:	64 sec

Indoor data

Indoor temperature range	:	-40°C—60°C (-40°F to + 140°F) (show — if outside range)
Resolution	:	0.1°C
Measuring range rel. humidity	:	1%~99%
Resolution	:	1%
Measuring range air pressure	:	300-1100hPa (8.85-32.5inHg)
Accuracy	:	+/-3hpa under 700-1100hPa
Resolution	:	0.1hPa (0.01inHg)
Alarm duration	:	120 sec

Power consumption

Base station	:	5V DC adaptor (included)
Indoor sensor	:	2xAAA alkaline batteries (not included)
Remote sensor	:	3xAA alkaline rechargeable batteries (included)

Remark: Be sure to use 1.5V rechargeable battery for solar transmitter.

Where outdoor temperature is lower than -20°C, make sure proper type of batteries to be used to assure that the device can get enough power to maintain its function properly. Normal alkaline batteries is not allow to be used since when outdoor temperature is lower than -20 °C, the battery's discharging capability is greatly reduced.



Please help in the preservation of the environment and return used batteries to an authorized depot.

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